N. P. N. SEMI-ANNUAL SUBJECT INDEX

Of Technical and Semi-Technical Articles

JULY-DECEMBER, 1937

Index Number	Subject	Issue	Page
079.	**Patents on Methods and Devices**		
	Patent Literature in Refining Technology;		
	Oiliness Agents; Article V, by J. H. Byers	July 14,	R-3
	Synthetic Lubricants, Article VI	Oct. 6,	R-218
	Synthetic Lubricants; Additives of Mineraloid Character, A2, Article VII	Dec. 1,	R-359
094.	**Materials**		
	.1 Iron and Steel		
	Influence of Silicon Additions on High Temperature Characteristics of 4-6% Chromium-Molybdenum Steels, by C. L. Clark and Martin Fleischmann	Nov. 3,	R-274
214.	**Changing Phase Properties**		
	.4 Melting Point		
	Revised Method For Determining Dripping Points of Lubricating Greases, by Wm. W. Niven, Jr.	July 28,	R-74
252.	**Internal Combustion Engine Tests**		
	Qualities of Diesel Fuels Which Control Efficiency, by Robert D. Best	Oct. 6,	R-232
265.	**Lubricating Oil Tests**		
	Qualities of Lubricants From Mid-Continent Sources by Dr. Sidney Born	Dec. 1,	R-354
	Engine Operating Conditions of Today Termed Challenge to Laboratory Testing	Dec. 15,	R-398
	.1 E. P. Lubricants		
	New Apparatus For Determination of Oiliness in Lubricants, by A. W. Ralston, E. J. Hoffman and E. S. Stephens	Nov. 3,	R-288
422.	**Well Drilling Methods and Equipment**		
	.333 Water Boiler Supply		
	Some Properties of Colloids and Their Use in Water Treatment, by L. Drew Betz	Dec. 15,	R-386
546.	**Dehydrating Petroleum**		
	.3 Dehydrating by Application of Heat		
	Saves $1000 a Month by Thermal Dehydration Continental Oil Co., by R. W. French	Dec. 1,	R-368
	.4 Electrical Dehydrating Methods		
	De-salting Crude At Pure Oil, Michigan Plant	July 28,	R-55
648.	**Losses of Oil During Storage, and Means of Protection**		
	.3 Due to Fire; Fire Hazards and Fire Protection		
	CO_2 Fire Fighting Equipment Increasing in Refineries, by M. G. Van Voorhis	Nov. 3,	R-294
701.	**Refining, General**		
	.6 Costs		
	Economists of Reforming and Leading Mid-Continent Gasoline, by Wright W. Gary and N. R. Adams	Aug. 11,	R-83
715.	**Asphalt Plants**		
	Talco Crude Yields 42% of Premium Asphalt, by Arch L. Foster	Dec. 15,	R-379
716.	**Cracking Plants**		
	New Japanese Patent Uses Soaking Coil and Quenching	Aug. 11,	R-105
	Type of Cracking Operations in Modern Cracking Plants, by Eugene R. Smoley, Valentine Mekler and A. Harry Schutte, Part I	Sept. 8,	R-159
	Part II	Sept. 22,	R-190
	Cracking Three Different Charge Stocks in Combination Selective Cracking Unit, by Eugene R. Smoley, A. Henry Schutte, W. Ullrich and H. M. Curtis	Oct. 20,	R-250
718.	**Combination Plants**		
	Types of Cracking Operations in Modern Cracking Plants, by Eugene R. Smoley, Valentine Mekler and H. Henry Schutte, Part I	Sept. 8,	R-159
	Part II	Sept. 22,	R-190
721	**Distillation**		
	Talco Crude Yields 42% of Premium Asphalt by Arch L. Foster	Dec. 15,	R-379
	.3 Cracking Distillation		
	Economics of Reforming and Leading Mid-Continent Gasoline, by Wright W. Gary and N. R. Adams	Aug. 11,	R-83
	Types of Cracking Operations in Modern Cracking Plants, by Eugene R. Smoley, Valentine Mekler and A. Henry Schutte, Part I	Sept. 8,	R-150
	Part II	Sept. 22,	R-190
	Cracking Three Different Charge Stocks in Combination Selective Cracking Unit, by E. R. Smoley, A. H. Schutte, W. Ullrich, H. M. Curtis	Oct. 20,	R-250
	.31 Polymerization		
	Wilshire Starting Polymerization Unit and H_2S Removal Plants, by J. N. Westsmith	Aug. 25,	R-129
725.	**Treatment of Distillates**		
	.1 With Sulfuric Acid		
	Refining Costs Reduced, Bright Stock Qualities Improved, By Propane-Acid Deasphalting, by W. H. Bahlke, E. W. Thiele, C. E. Adams and B. Ginsberg	Aug. 25,	R-114
726.	**Decolorizing**		
	.1 By Filtration		
	Precoat System Offers New Filtration Principle; Oliver Precoat Filter, by J. J. Allinson and J. B. Rogerson	July 14,	R-34
729.	**Other Refinery Processes**		
	.2 Filtration Processes		
	Precoat System Offers New Filtration Principle; Oliver Precoat Filter, by J. J. Allinson and J. B. Rogerson	July 14,	R-34
	.7 Gas Polymerization		
	Aviation and Motor Fuels as Produced by Polymerization, by Gustav Egloff, J. C. Morrell and E. F. Nelson	Nov. 17,	R-318
	Iso-Octane Yield Doubled by "Hot-Acid" Process, by S. H. McAllister	Nov. 17,	R-332
	Value of Polymerization in Natural Gasoline Plant Operations, by Henry N. Wade	Dec. 1,	R-347
	.8 Solvent Extraction and Dewaxing		
	Miscibility Relations in Solvent Dewaxing, by Frank Hall and B. Y. McCarty	July 14,	R-15
	Refining Costs Reduced, Bright Stock Qualities Improved, by Propane-Acid Deasphalting, by W. H. Bahlke, E. W. Thiele, C. E. Adams and B. Ginsberg	Aug. 25,	R-114
	.a Coloring		
	Wilshire Starting Polymerization Unit and H_2S Removal Plant, by J. N. Westsmith	Aug. 25,	R-129

Index Number	Subject	Issue	Page
731.	**Refinery Layout and Design**		
	Cracking Three Different Charge Stocks in Combination Selective Cracking Unit, by E. R. Smoley, A. H. Schutte, W. Ullrich, and H. M. Curtis	Oct. 20,	R-250
732.	**Materials Used in Refinery Construction**		
	.3 Iron and Steel Pipe		
	Aluminum Alloy Steels For Sour Crude Refining, by Martin Fleischmann and S. D. Williams	July 28,	R-51
	Corrosion Rates of 10,000 Still Tubes Guide Selection of Steels, by M. G. Van Voorhis	Oct. 20,	R-242
	Influence of Silicon Addition on High Temperature Characteristics of 4-6% Chromium-Molybdenum Steels, by C. L. Clark and Martin Fleischmann	Nov. 3,	R-274
734.	**Distillation Equipment**		
	.1 Stills		
	Aluminum Alloy Steels for Sour Crude Refining, by Martin Fleischmann and S. D. Williams	July 28,	R-51
	Corrosion Rates of 10,000 Still Tubes Guide Selection of Steels, by M. G. Van Voorhis	Oct. 20,	R-242
	Types of Cracking Operations in Modern Cracking Plants, by Eugene R. Smoley, Valentine Mekler and A. Schutte, Part I	Sept. 8,	R-159
	Part II	Sept. 22,	R-190
	.9 Fractionating Towers		
	Fractionating Columns, and Packings For Them, by Dr. D. F. Stedman	Aug. 25,	R-125
739.	**Other Data on Refinery Construction, Equipment, and Materials**		
	.4 Water Cooling		
	Development and Operating Characteristics of Atmospheric Water Cooling Towers, by G. Russell Nance and H. A. Dresser	Sept. 8,	R-147
741.	**Distillation Practice**		
	.35 Pressure Stills		
	New Japanese Patent Uses Soaking Coil and Quenching	Aug. 11,	R-105
	Cracking Three Different Charge Stocks in Combination Selective Cracking Unit, by E. R. Smoley, A. H. Schutte, W. Ullrich, and H. M. Curtis	Oct. 20,	R-250
	.6 Upkeep and Maintenance of Stills; Effects of Corrosion and Heat		
	Influence of Silicon Additions on High Temperature Characteristics of 4-6 Chromium-Molybdenum Steels, by C. L. Clark and Martin Fleischmann	Nov. 3,	R-274
742.	**Operation and Control of Vapor Condensers and Heat Exchangers**		
	.1 Corrosion of Condenser Coils		
	Mid-Continent Refiners' Corrosion Problems Increasing; Methods Used To Combat It, by Allen S. James	July 14,	R-42
743.	**Operation and Control of Agitators**		
	Two-in-one Copper Sweetening Unit Lowers Treating, Inhibitor Costs; Barnsdall Refg. Using Perco Units, by John C. Albright	Oct. 6,	R-211
745.	**Wax Plant Operation and Control**		
	Miscibility Relations in Solvent Dewaxing, by Frank Hall and B. Y. McCarty	July 14,	R-15
747.	**Sampling, Metering, and Testing**		
	Revised Method of Determining Dripping Points of Lubricating Greases, by Wm. W. Niven, Jr.	July 28,	R-74
748.	**Pumping and Control of Oils**		
	.1 Pump Capacities, Calculation of		
	Nomographic Chart For Finding Reciprocating Pump Capacities, by Arthur Norton	Aug. 25	R-142
751.	**Naphthas**		
	.2 Gasoline		
	Two-in-one Copper Sweetening Unit Lowers Treating, Inhibitor Costs; Barnsdall Refg. Using Perco Units, by John C. Albright	Oct. 6,	R-211
	Aviation and Motor Fuels as Produced By Polymerization, by Gustav Egloff, J. C. Morrell and E. F. Nelson	Nov. 17,	R-31
	Iso-Octane Yield Doubled By "Hot-Acid" Process, by S. H. McAllister	Nov. 17,	R-33
	Talco Crude Yields 42% of Premium Asphalt, by Arch L. Foster	Dec. 15,	R-379
753.	**Lubricants and Related Oils**		
	The Patent Literature in Refining Technology; Oiliness Agents, Article V, by J. H. Byers	July 14,	R-3
	Synthetic Lubricants, Article VI, by J. H. Byers	Oct. 6,	R-218
	Synthetic Lubricants; Additives of Mineraloid Character, A2, Article VII, by J. H. Byers	Dec. 1,	R-359
	Miscibility Relations in Solvent Dewaxing, by Frank Hall and B. Y. McCarty	July 14,	R-15
	Refining Costs Reduced, Bright Stock Qualities Improved, By Propane-Acid Deasphalting, by W. H. Bahlke, E. W. Thiele, C. E. Adams and B. Ginsberg	Aug. 25,	R-114
756.	**Asphalt and Road Oils**		
	Talco Crude Yields 42% of Premium Asphalt, by Arch L. Foster	Dec. 15,	R-379
762.	**Power Plant and Power Distribution**		
	.12 Water Treatment		
	Some Properties of Colloids, and Their Use in Water Treatment, by L. Drew Betz	Dec. 15,	R-386
	.121 Water Cooling Towers		
	Development and Operating Characteristics of Atmospheric Water Cooling Towers, by G. Russell Nance and H. A. Dresser	Sept. 8,	R-147
769.	**Auxiliary Departments**		
	.1 Fire Preventive and Extinguishing Equipment		
	CO_2 Fire Fighting Equipment Increasing in Refineries, by M. G. Van Voorhis	Nov. 3,	R-294
773.	**Oil Absorption Process of Extraction**		
	.1 Absorption Plant Layout and Design		
	Heavier Natural Gas Fractions Used as Absorber Oil; Parade Gasoline, Humble Oil & Refg., by J. C. Albright	July 14,	R-9
	.7 Absorption Plant Operation and Control		
	Heavier Natural Gas Fractions Used as Absorber Oil; Parade Gasoline, Humble Oil & Refg., by J. C. Albright	July 14,	R-9
775.	**Extraction of Gasoline from Gases**		
	Heavier Natural Gas Fractions Used as Absorber Oil, by J. C. Albright	July 14,	R-9
790.	**Other Data on Refining**		
	Mid-Continent Refiners' Corrosion Problems Increasing; Methods Used to Combat It, by Allen S. James	July 14,	R-42
	Globe Oil Revamps For Higher Gasoline Yields, Higher Efficiency; McPherson, Kans., Plant	July 28,	R-75
801.	**Utilization of Naphthas**		
	Aircraft Fuel Specifications — Present and Future, by W. H. Hubner, Gustav Egloff and G. B. Murphy	July 28,	R-57
802.	**Utilization of Fuel Oils**		
	Qualities of Diesel Fuels Which Control Efficiency, by Robert D. Best	Oct. 6,	R-232
811.	**Burners and Appliances**		
	.1 For Liquid Fuel		
	100 Octane Number Fuels Increase Power 30 Per Cent, by S. D. Heron	Nov. 17,	R-307

Lowered COSTS Greater YIELDS Better OILS!

ANNUAL VOLUME YIELDED BY FILTRATION THROUGH ORDINARY FILTER MATERIAL

Through POROCEL

ANNUAL VOLUME YIELDED BY FILTRATION THROUGH POROCEL

Any refiner employing percolation filtration can boost his filter house capacity 66 2/3%, or cut his costs proportionately, by using POROCEL.

POROCEL is the first filter material to successfully replace adsorbents ordinarily used in percolation filtration . . . and do a better job.

Installed in your own refinery, POROCEL will quickly pay for itself . . . out of profits.

Upon request, one of our own technical staff will demonstrate the advantages of using POROCEL in your refinery. Write us for particulars and samples.

•

Oils Filtered Through POROCEL show improved VISCOSITY INDEX, CARBON RESIDUE OXIDATION STABILITY and CAST

Porocel Division

L. SONNEBORN SONS, INC.

88 Lexington Avenue • New York City

Index Number	Subject	Issue	Page
815.	**Engine Power Development Using Light Distillate**		
	.2 Four Cycle Engines		
	Aircraft Fuel Specifications — Present and Future, by W. H. Hubner, Gustav Egloff and G. B. Murphy	July	28, R-57
	100 Octane Number Fuels Increase Power 30 Per cent, by S. D. Heron	Nov.	17, R-307
817.	**Power Development with Diesel Engines**		
	Qualities of Diesel Fuels Which Control Efficiency, by Robert D. Best	Oct.	6, R-232
830.	**Utilization of Petroleum Products for Lubrication**		
	New Apparatus For Determination of Oiliness in Lubricants, by A. W. Ralston, E. J. Hoffman and E. S. Stephens	Nov.	3, R-288
830.1	**Theory and Principles of Lubrication**		
	Research at Extreme Pressures May Solve Fundamental Lubrication Problems, by Dr. Thomas Charles Poulter	Dec.	29, R-410
	Oil Film Lubrication; An Answer to Camelford-Burwell Discussion, by Ir. G. Lieth	Dec.	29, R-415
832.	**Lubrication of Engine Cylinders**		
	Qualities of Lubricants from Mid-Continent Sources, by Sidney Born	Dec.	1, R-354
903.	**Economics of the Refining Industry**		
	Economics of Reforming and Leading Mid-Continent Gasoline, by Wright W. Gary and N. R. Adams	Aug.	11, R-83
936.	**Conservation of Supplies, Materials and Power**		
	Salvage Methods Effect Great Savings in Equipment, by H. Liggett Gray	Sept.	22, R-200

N. P. N. SEMI-ANNUAL AUTHOR INDEX
Of Refining Technology Articles

JULY-DECEMBER, 1937

Author	Title	Issue	Page
Adams, C. E.	Refining Costs Reduced, Bright Stock Qualities Improved by Propane-Acid Deasphalting	Aug.	25, R-114
Adams, N. R.	Economics of Reforming and Leading Mid-Continent Gasoline	Aug.	11, R-83
Albright, John C.	Heavier Natural Gas Fractions Used As Absorber Oil; Parade Gasoline, Humble Oil & Refg.	July	14, R-9
	Barnsdall's Two-in-One Copper Sweetening Unit Lowers Treating, Inhibitor Costs; Perco Units	Oct.	6, R-211
Allinson, J. J.	Precoat System Offers New Filtration Principle; Oliver Precoat Filter	July	14, R-34
Bahlke, W. H.	Refining Costs Reduced, Bright Stock Qualities Improved by Propane-Acid Deasphalting	Aug.	25, R-114
Best, Robert D.	Qualities of Diesel Fuels Which Control Efficiency	Oct.	6, R-232
Betz, L. Drew	Some Properties of Colloids, and Their Use in Water Treatment	Dec.	15, R-386
Born, Dr. Sidney	Qualities of Lubricants From Mid-Continent Sources	Dec.	1, R-354
Byers, J. Harold	The Patent Literature in Refining Technology; Oiliness Agents, Article V	July	14, R-3
	Patent Literature on Synthetic Lubricants, Article VI	Oct.	6, R-218
	Patent Literature on Synthetic Lubricants; Additives of mineraloid character, Article VII	Dec.	1, R-359
Clark, C. L.	Influence of Silicon Additions on High Temperature Characteristics of 4-6% Chromium-Molybdenum Steels	Nov.	3, R-274
Curtis, H. M.	Cracking Three Different Charge Stocks in Combination Selective Cracking Unit	Oct.	20, R-250
Dresser, H. A.	Development and Operating Characteristics of Atmospheric Water Cooling Towers	Sept.	8, R-147
Egloff, Dr. Gustav	Aircraft Fuel Specifications—Present and Future	July	28, R-57
	Aviation and Motor Fuels as Produced by Polymerization	Nov.	17, R-318
Fleischmann, Martin	Aluminum Alloy Steels For Sour Crude Refining	July	28, R-51
	Influence of Silicon Additions on High Temperature Characteristics of 4-6% Chromium-Molybdenum Steels	Nov.	3, R-274
Foster, Arch L.	Talco Crude Yields 42% of Premium Asphalt	Dec.	15, R-379
French R. W.	Saves $1000 a Month by Thermal Dehydration	Dec.	1, R-368
Gary Wright, W.	Economics of Reforming and Leading Mid-Continent Gasoline	Aug.	11, R-83
Ginsberg, B.	Refining Costs Reduced, Bright Stock Qualities Improved by Propane-Acid Deasphalting	Aug.	25, R-114
Gray, H. Liggett	Salvage Methods Effect Great Savings in Equipment	Sept.	22, R-200
Hall, Frank W.	Miscibility Relations in Solvent Dewaxing	July	14, R-15
Heron, S. D.	100 Octane Number Fuels Increase Power 30 Per Cent	Nov.	17, R-307
Hoffman, E. J.	New Apparatus For Determination of Oiliness in Lubricants	Nov.	3, R-288
Hubner, W. H.	Aircraft Fuel Specifications—Present and Future	July	28, R-57
James, Allen S.	Mid-Continent Refiners' Corrosion Problems Increasing; Methods Used to Combat It	July	14, R-42
Lieth, Ir. G.	Oil Film Lubrication; an Answer to Camelford-Burwell Discussion	Dec.	29, R-415
McAllister, S. H.	Iso-Octane Yield Doubled by "Hot Acid" Process	Nov.	17, R-332
McCarty, B. Y.	Miscibility Relations in Solvent Dewaxing	July	14, R-15
Mekler, Valentine	Types of Cracking Operations in Modern Cracking Plants, Part I	Sept.	8, R-159
	Part II	Sept.	22, R-190
Morrell, J. C.	Aviation and Motor Fuels as Produced by Polymerization	Nov.	17, R-318
Murphy, G. B.	Aircraft Fuel Specifications—Present and Future	July	28, R-57
Nance, G. Russell	Development and Operating Characteristics or Atmospheric Water Cooling Towers	Sept.	3, R-147
Nelson, E. F.	Aviation and Motor Fuels as Produced by Polymerization	Nov.	17, R-318
Niven, William W. Jr.	Revised Method For Determining Dripping Points of Lubricating Greases	July	28, R-74
Norton, Arthur	Nomographic Chart For Finding Reciprocating Pump Capacities	Aug.	25, R-142
Poulter, Thomas Charles	Research At Extreme Pressures May Solve Fundamental Lubrication Problems	Dec.	29, R-410

Author — Title	Issue	Page
Kalston, A. W.—New Apparatus For Determination of Oiliness in Lubricants	Nov. 3,	R-288
Rogerson, J. B.—Precoat System Offers New Filtration Principle; Oliver Precoat Filter	July 14,	R-34
Schutte, A. Henry—Types of Cracking Operations in Modern Cracking Plants, Part I	Sept. 8,	R-159
Part II	Sept. 22,	R-190
Cracking Three Different Charge Stocks in Combination Selective Cracking Unit	Oct. 20,	R-250
Smoley, Eugene R.—Types of Cracking Operations in Modern Cracking Plants, Part I	Sept. 8,	R-159
Part II	Sept. 22,	R-190
Cracking Three Different Charge Stocks in Combination Selective Cracking Unit	Oct. 20,	R-250
Stedman, Dr. D. F.—Fractionating Columns, and Packings For Them	Aug. 25,	R-125
Stephens, E. S.—New Apparatus For Determination of Oiliness in Lubricants	Nov. 3,	R-288
Thiele, E. W.—Refining Costs Reduced, Bright Stock Qualities Improved by Propane-Acid Deasphalting	Aug. 25,	R-115
Ullrich, W.—Cracking Three Different Charge Stocks in Combination Selective Cracking Unit	Oct. 20,	R-250
Van Voorhis, M. G.—Corrosion Rates of 10,000 Still Tubes Guide Selection of Steels	Oct. 20,	R-242
CO_2 Fire Fighting Equipment Increasing in Refineries	Nov. 3,	R-294
Wade, Henry N.—Value of Polymerization in Natural Gasoline Plant Operations	Dec. 1,	R-347
Westsmith, J. N.—Wilshire Starting Polymerization Unit and H_2S Removal Plant	Aug. 25,	R-129
Williams, S. D.—Aluminum Alloy Steels for Sour Crude Refining	July 28,	R-51

To Stress Fuel-Engine Design Co-ordination At S.A.E.

"The Diesel Engine's Place in Modern Transportation" will be shown in his inimitable manner by C. F. Kettering, general director of General Motors Research Laboratories, for the Society of Automotive Engineers at its annual dinner at Detroit, Thursday evening Jan. 13th, says the preliminary announcement of the winter meeting of the Society. Technical advancement and the trends of future technical developments will receive more attention at this meeting than has ever been the case before, J. A. C. Warner, executive secretary promises.

Aircraft problems, including aerodynamic, engine, and engine fuel and lubricants phases, will occupy four sessions. Among the subjects to be discussed are knock suppressors, aviation spark plug problems, accessory drive, aircraft instruments, and problems of design of planes and plane components.

Fuels and lubricants will be treated in three sessions, which will stress the growing need for co-ordination between engine developments and the advances being made in lubricants and motor fuels. One outstanding subject to be brought up is "What is an E. P. Product?", to be discussed by J. A. Moller, Pure Oil Co., as indicated by the preliminary program. Other subjects are reduction of piston and cylinder wear; effect of oil on wear in aviation engines; carburetion, manifolding and fuel anti-knock value, and three CFR reports on road and laboratory fuel tests, and the motor survey recently completed.

Diesel engine supercharging is a subject growing in interest and importance, and will be presented in two papers on Friday morning. Earlier, on Thursday morning, two more papers will present the newest developments in aircraft diesels and on deposits in diesels, as affected by types of fuel and operating conditions.

Transportation and Maintenance will occupy most of the attention on Monday, Jan. 10th, with four papers of special interest in that field. Advance registrations indicate that last January's record of 2500 in attendance will be eclipsed at this meeting.

Donnelly Cracking Process

The

Process

of

Pyrolytic Perfection

DONNELLY
brought the
Six Cent Royalty
to
The Independent Industry

You can still obtain from
DONNELLY
for
Six Cents
Cracking Patent Immunities
under the
Cracking Patent Rights
of
DONNELLY
and
GASOLINE PRODUCTS
and
Infringement Suit Defense
under both
Donnelly and Behimer

Have our representative call on you

DONNELLY PROCESS CORPORATION
20 North Wacker Drive
CHICAGO, ILLINOIS